

*What Is Claimed Is:*

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

5 (a) a nucleotide sequence encoding the hPSP polypeptide having the amino acid sequence at positions -18 to +231 in SEQ ID NO:2;

(b) a nucleotide sequence encoding the hPSP polypeptide having the amino acid sequence at positions -17 to +231 in SEQ ID NO:2;

10 (c) a nucleotide sequence encoding the predicted mature hPSP polypeptide having the amino acid sequence at positions +1 to +231 in SEQ ID NO:2;

(d) a nucleotide sequence encoding the hPSP polypeptide having the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811;

15 (e) a nucleotide sequence encoding the hPSP polypeptide having the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in ATCC Deposit No. 97811;

(f) a nucleotide sequence encoding the mature hPSP polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811; and

20 (g) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c), (d), (e) or (f) above.

2. The nucleic acid molecule of claim 1 wherein said polynucleotide has the complete nucleotide sequence in Figure 1 (SEQ ID NO:1).

25 3. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence in SEQ ID NO:1 encoding the hPSP polypeptide having the amino acid sequence in positions -17 to +231 SEQ ID NO:2.

30 4. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence in SEQ ID NO:1 encoding the mature form of the hPSP polypeptide having the amino acid sequence from about amino acid residue 1 to about amino acid residue 231 of SEQ ID NO:2.

5. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence at positions n-231 in SEQ ID NO:2, where n is an integer except zero in the range of -17 to +26.

(b) a nucleotide sequence encoding a polypeptide having the amino acid sequence of residues 1-m of SEQ ID NO:2, where m is an integer in the range of +220 to +231;

(c) a nucleotide sequence encoding a polypeptide having the amino acid sequence of residues n-m of SEQ ID NO:2, where n and m are integers as defined respectively in (a) and (b) above; and

(d) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete hPSP amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811 wherein said portion excludes from 1 to about 43 amino acids from the amino terminus of said complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811;

(e) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete hPSP amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811 wherein said portion excludes or from 1 to about 11 amino acids from the carboxy terminus of said complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811; and

(f) a nucleotide sequence encoding a polypeptide comprising a portion of the complete hPSP amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811 wherein said portion include a combination of any of the amino terminal and carboxy terminal deletions in (d) and (e), above.

6. The nucleic acid molecule of claim 1 wherein said polynucleotide has the complete nucleotide sequence of the cDNA clone contained in ATCC Deposit No. 97811.

7. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence encoding the hPSP polypeptide having the complete amino acid sequence except the N-terminal amino acid encoded by the cDNA clone contained in ATCC Deposit No. 97811.

8. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence encoding the mature form of the hPSP polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811.

9. An isolated nucleic acid molecule comprising a nucleic acid sequence which encodes an epitope-bearing portion of an hPSP polypeptide selected from the group consisting of: a polypeptide comprising amino acid residues from about Ser50 to about Leu66 of SEQ ID NO:2; a polypeptide comprising amino acid residues from about Glu97 to about Leu105 of SEQ ID NO:2; a polypeptide comprising amino acid residues from about Glu141 to about Gln148 of SEQ ID NO:2; and a polypeptide comprising amino acid residues from about Asp219 to about Leu227 of SEQ ID NO:2.

10. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 1 into a vector.

11. A recombinant vector produced by the method of claim 10.

12. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 11 into a host cell.

13. A recombinant host cell produced by the method of claim 12.

14. A recombinant method for producing a hPSP polypeptide, comprising culturing the recombinant host cell of claim 13 under conditions such that said polypeptide is expressed and recovering said polypeptide.

15. An isolated hPSP polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) the amino acid sequence from about position -18 to about position +231 in SEQ ID NO:2 or the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97811;

(b) the amino acid sequence from about position -17 to about position +231 in SEQ ID NO:2 or the complete amino acid sequence except the N-terminal methionine encoded by the cDNA clone contained in ATCC Deposit No. 97811; and

(c) the amino acid sequence of the mature form of the hPSP polypeptide having the amino acid sequence from about position +1 to about position +231 in of SEQ ID NO:2, or as encoded by the cDNA clone contained in the ATCC Deposit No. 97811.

16. An isolated polypeptide comprising an epitope-bearing portion of the hPSP amino acid sequence, wherein said portion is selected from the group consisting of: a polypeptide comprising amino acid residues from about Ser50 to about Leu66 of SEQ ID NO:2; a polypeptide comprising amino acid residues from about Glu97 to about Leu105 of SEQ ID NO:2; a polypeptide comprising amino acid residues from about Glu141 to about Gln148 of SEQ ID NO:2; and a polypeptide comprising amino acid residues from about Asp219 to about Leu227 of SEQ ID NO:2.

17. An isolated antibody that binds specifically to an hPSP polypeptide of claim 15.

18. An isolated nucleic acid molecule comprising a polynucleotide having a sequence at least 95% identical to a sequence selected from the group consisting of

(a) a portion of the sequence shown in SEQ ID NO:1, wherein said portion comprises at least 30 contiguous nucleotides from nucleotide 48 to nucleotide 793 but wherein said portion does not have the sequence of any one of SEQ ID NOS:10-18 or any subfragment thereof; and

(b) a nucleotide sequence complementary to any of the nucleotide sequences in (a) above.